

## BIBLIOGRAPHY.

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2. 1913. Woodworth, Guide to California Insects, p. 196.
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5. 1886. Horn, Trans. Amer. Ent. Soc., XIII, p. 7.

## EXPLANATION OF PLATES.

## PLATE VII.

Fig. 1. Adult and pupa of *Chrysobothris sylvania* Fall, in their cells in sapwood of Douglas fir. Natural size.

Fig. 2. Full grown larvæ of *Chrysobothris sylvania*, attacked by larvæ of an ichneumonid. Slightly enlarged.

Fig. 3. Same as fig. 2, greatly enlarged.

## PLATE VIII.

Fig. 1. Cross sections of the larval mines of *Melasis rufipennis*, about natural size. Note the adult emergence hole near center.

Fig. 2. Grand fir wood showing longitudinal sections of the mines.

Fig. 3. Adult of *Melasis rufipennis* Horn. (Greatly enlarged.)

Fig. 4. Pupæ of *M. rufipennis* Horn. (Greatly enlarged.)

Fig. 5. Larva of *M. rufipennis* Horn. (Greatly enlarged.)

## DESCRIPTION OF ORCHESTINA SALTITANS BANKS. (ARACHNIDA.)

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The family Oönopidæ is very poorly represented in the United States. Banks has described in 1893 one species of *Gamasomorpha* from Florida (*G. floridana*), and in 1894 a species of *Orchestina* from New York (*O. saltitans*). In 1909 Emerton described a male from Massachusetts, which he identified as *O. saltitans*. In 1910 I identified a male caught in New Jersey as *O. saltabunda* Simon, a species occurring regularly in Venezuela. Comte de Dalmas has published a revision of the genus *Orchestina* in *Annales de la Société Entomologique de France* in 1916. He makes the suggestion that the spider described by Emerton is not an *Orchestina*, but a *Tapinesthis*, closely related to *Tapinesthis inermis* Simon, a spider found fre-

quently in France, and possibly representing a new species. In the same paper Comte de Dalmas puts forward the opinion that the spider which I identified as *O. saltabunda* is in reality the male of *O. saltitans*. That this male is not *O. saltabunda* is quite evident from the structure of the palpus which Dalmas figures on page 227 (figures 24 and 25). Whether it is the male of *O. saltitans* of which Banks has described only the female, remains an open question. Since however I omitted to give a description and merely gave two figures, I thought it advisable to give now a detailed description of my specimen and measurements and drawings of the most important parts. To accomplish this I have cut off the legs and palpi, preserved them as microscopical slides, made the drawings with the aid of an Abbe drawing apparatus and the measurements with an ocular micrometer. For the convenience of the reader I reproduce here first the description of the female given by Banks, with the correction as to its size, given by Dalmas (in Banks's description a decimal point is omitted by mistake).

**Orchestina saltitans** Banks, female. "Length 1.1 mm. Cephalothorax whitish, with a black marginal line and a black spot around eyes; mandibles pale; legs and palpi yellowish; sternum whitish; abdomen purplish above, quite dark near tip, center pale, spinnerets white. Cephalothorax quite broad, yet plainly longer than broad, and broadest a little before the middle; highest behind the middle and sloping to the narrow clypeus; no dorsal groove nor radial furrows; three rows of curved hairs above; eyes large, subequal, all close together. Mandibles quite long, vertical; lip quadrangular, broader than long; sternum triangular, longer than broad, emarginate in front, tapering behind and prolonged between the posterior coxæ. Legs long and slender, fourth pair as long as first, third pair much the shortest, quite thickly clothed with hairs, two prominent claws; posterior femora greatly thickened, fully twice as broad as femur I, and not much over four times as long as broad. Abdomen nearly globose, but a little longer than high, quite thickly clothed with stiff hairs; spinnerets all close together; region of epigynum slightly swollen, a transverse furrow, beneath which is a pale area crossed by a yellow line."

One female from Sea-Cliff, Long Island, New York; taken in the house. When touched by a pencil, leaped backwards three centimeters.

**Orchestina saltitans** Banks, male. (Plate IX.) *O. saltabunda* Petrunkevitch, 1910, nec *O. saltabunda* Simon, 1892, nec *O. saltitans* Emerson, 1909. Length 1.05 mm. Cephalothorax 0.53 mm. long, 0.44 broad between second

and third pair of legs, very high (figs. 1, 2, 8 and 9). Chelicera slender. Maxillary plates almost parallel, with short scopula at apical quarter. Lip wider than long, its shape difficult to see. Sternum slightly longer than wide, emarginate in front, cordiform, narrowly produced between the hind coxæ (fig. 3) and very convex (fig. 8). In this connection I should like to point out that figure 1 is a reproduction of the original figure which I published in 1910 and represents the spider in a position in which its back is considerably inclined toward the observer. After the legs of both sides have been removed by a cut between the coxæ and trochanteres, fig. 8 was drawn with the aid of the drawing apparatus and represents the exact profile of the cephalothorax. From an examination of this figure it will appear that the carapace is highest between the second and third coxæ and that in front of the first coxæ the carapace is considerably extended downward thus forming a rather high clypeus. It will also be seen that the convexity of the sternum is greatest in the region of the second coxæ. The carapace slopes therefore more gently forward and the sternum backward. The eyegroup surrounded by black pigment (figs. 2, 8, and 9) is composed of six eyes, all nocturnal and grayish in color. The middle eyes which are probably the posterior median eyes are larger than the side eyes. From above they appear as ovals, but viewed from in front they have the shape of a somewhat irregular circle. The clypeus is about two and a half times as high as the diameter of the middle eyes. Abdomen ovoid, higher than long (fig. 1). Anterior spinnerets slightly heavier than posterior ones. Legs slender II-I-IV-III, first coxæ wide apart (fig. 3). Hind femora considerably dilated, being only 3.2 times as long as their width in middle (fig. 6). Measurements of legs in millimeters:

Leg.	Femur.	Pat. + Tibia.	Metatarsus.	Tarsus.	Total.
I	0.48	0.62	0.43	0.23	1.76
II	0.49	0.63	0.46	0.23	1.81
III	0.37	0.40	0.32	0.17	1.26
IV	0.50	0.57	0.39	0.13	1.59

Feet with onychium. Claws two, with powerful curved teeth at base (fig. 7), fine teeth in middle third and smooth at apical third. Palpi heavy, with very large bulb (fig. 5). Tibia much distended. Tarso-metatarsus spoon-shaped, half as long as the width of the bulb. Both figs. 4 and 5 were drawn after the palpi were removed, cleared in oil and preserved as permanent microscopic preparations. The figures are easily understood, as they supplement each other, the one giving a sideview of the entire palpus less its coxa, the other a front view of the bulb and tarso-metatarsus. The embolus is long and thin and is curved outward. Inside the bulb the small sperm receptacle may be seen close to its base, and the long sperm duct forming a loop in its middle. The hair covering the body and appendages is of two types: simple hair of various length attaining greatest dimensions on the abdomen, and minutely plumose hair found only on the legs and palpi.

Coloration. The general appearance of the spider when viewed with naked eye is such as if he had a black abdomen and a yellow cephalothorax and legs. On closer examination under microscope one notices that the coloration of the abdomen is complex. Curved interrupted black lines the only ones shown on fig. 1 so as not to obscure the drawing, are on a general field of purplish spots and dots with small yellow spaces separating them. The spinnerets are light yellow. The legs are yellow including coxæ. Sternum is dark owing to irregular pigmentation. Lip and maxillary plates are lighter than the sternum, yet show pigmentation. Palpi, especially their tibia mottled with black. Bulb yellow. Chelicera yellow with some black pigmentation in front. Cephalothorax yellow with a narrow black margin, very regular black lines and spots as shown in figs. 2 and 9, black area around the eyes, and small black dots and short lines all over the surface.

The only specimen in existence was caught by Mrs. Petrunkevitch on June 26, 1907, in our home at Short Hills, New Jersey, where we lived at the time. When I came to study it in 1910, Emerton's paper was already published. Since his specimen which he identified as the male of *Orchestina saltitans* had evidently no resemblance to my specimen, I reluctantly placed my specimen as *O. saltabunda*. Is it after all the male of *O. saltitans*? The description given by Banks of the single female which he collected is not sufficient to clear the matter. There is a certain similarity both in structure and coloration between his female and my male, but also not inconsiderable differences, as may be seen from a comparison of the two descriptions. It were perhaps safer to give my male a new name, but I am not anxious to increase the number of names. It is strange however that all our knowledge of Oönopid spiders in the United States is based on four specimens only. So far as I know, no other specimens have been collected. In the case of *Gamasomorpha* it is very likely that the species really occurs in Florida. But is it sure that the other specimens belong to the fauna of the United States and have not been accidentally imported with fruit or some other goods from the West Indies or Central or South America?

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